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Abstract

PROBLEM TO BE SOLVED: To provide a separator having durability in an alkaline electrolyte, preventing it from being pierced by zinc dendrite, and preventing the internal short circuit of a battery for a long period by containing a partially saponified polyvinyl alcohol bridged film acetal-crosslinked by the oxidation decomposition reaction and acid treatment of the 1,2-diol unit of the film containing a partially saponified polyvinyl alcohol having a specific saponification value.

SOLUTION: A partially saponified polyvinyl alcohol having the saponification value of 70-98.5% is used. The average polymerization degree is preferably set to 50 or above, and the average thickness of the film containing the partially saponified polyvinyl alcohol is preferably set to 100 μ m or below. Methasodium periodate is preferably used for an oxidant used for acetal crosslinking. An acid catalyst generating H $<+>$ is used for acid treatment, e.g. an inorganic acid such as sulfuric acid or hydrogen chloride, an organic acid such as acetic acid or benzoic acid, and a mixture of them are preferably used. The crosslinked film has low film resistance, it is used alone for a separator, and it can be combined or integrated with a woven fabric, a nonwoven fabric, or a fine porous film for use.